

Claim Amendments

By this amendment, claim 1 is amended to recite limitations for which support exists at page 12, lines 13-14 and page 15, line 12. New claim 16 is added directed to a preferred amount of the catalyst present, support for which resides at page 12, line 14. New claim 17 is added directed to a preferred temperature range, support for which resides at page 15, line 12. New claim 18 is added directed to a preferred amount of the catalyst present, support for which resides at page 12, line 15 of the specification. No new matter is added by this amendment.

Applicants' Invention

By way of review, applicants' invention is directed to a process for producing a fatty acid ester from an oil or fat and an alcohol, wherein the process comprises reacting an oil or fat with an alcohol in the presence of a solid base catalyst comprising at least one component selected from the group consisting of sodium carbonate, calcium oxide, calcium hydroxide, calcium carbonate and magnesium oxide under conditions in which at least one of the oil or fat in an amount of 0.001 parts by weight or more based on 100 parts by weight of

the oil or fat and the alcohol is in a supercritical state at a temperature exceeding 270 °C. As demonstrated in the examples, the claimed invention enables particularly desirable results to be achieved in connection with the production of the fatty acid ester. Applicants' invention is also directed to a fuel or base oil comprised of the fatty acid ester produced by applicants' process. Applicants' invention is neither disclosed nor suggested by the prior art.

Withdrawn Rejections

Applicants acknowledge with appreciation the withdrawal of the prior rejections based on GB 795573, Ullmann, Stern, and Cahen.

Allowable Subject Matter

Applicants acknowledge with thanks the indication of allowability of the subject matter of claims 3 and 4. However, in view of the above amendments and the following remarks, applicants believe that all pending claims are now allowable.

Rejection under 35 USC 102(a) or 102(e) over Sasaki

Claims 1 and 5-15 stand rejected under 35 USC 102(a)/(e) as being anticipated by Sasaki U.S. Patent No. 6,187,939. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response to the rejection, applicants amend claim 1 to recite that the catalyst is present in an amount of at least 0.001 parts by weight based on the weight of the oil or fat and alcohol components. By contrast, the reference teaches that only minor amounts of catalyst should be employed. To further reinforce this distinction, new claim 18 is added which states that at least 0.005 parts by weight of the catalyst are employed.

In view of the above, it is believed that the rejection is without basis and should be withdrawn.

Rejection under 35 USC 103(a) over ES 2124166

Claim 1 stands rejected under 35 USC 103(a) as being obvious in view of ES 2124166. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In support of the rejection, the Examiner takes the position that since the reference teaches the use of a temperature of 260 °C, it is assumed that at least one of the components would be at a supercritical state.

In response, applicants again note that the cited reference fails to disclose or suggest the invention of amended claim 1 wherein at least one of the oil or fat and the alcohol is in the supercritical state during the reaction. In order to further distinguish over the reference, applicants' claim 1 now recites that the reaction temperature is at least 270 °C. As recognized by the Examiner, the reference teaches the use of temperatures in the range of 25-260 °C, while also being silent with respect to the use of supercritical conditions.

The cited reference fails to disclose or suggest the combination of conditions now claimed. The rejection is thus without basis and should be withdrawn.

The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James

W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

Applicant respectfully petitions under the provisions of 37 CFR 1.136(a) and 1.17 for a three-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$930.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

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CLAIM AMENDMENTS WITH MARKINGS TO SHOW CHANGES

The claims have been amended as follows:

1. (Twice Amended) A process for producing a fatty acid ester from an oil or fat and an alcohol, wherein the process comprises reacting an oil or fat with an alcohol in the presence of a solid base catalyst comprising at least one component selected from the group consisting of sodium carbonate, calcium oxide, calcium hydroxide, calcium carbonate and magnesium oxide under conditions in which at least one of the oil or fat in an amount of 0.001 parts by weight or more based on 100 parts by weight of the oil or fat and the alcohol is in a supercritical state at a temperature [exceeding 260] of 270 °C or more.

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